May 3, 1849.

The EARL OF ROSSE, President, in the Chair.

In accordance with the Statutes the President read the following list of Candidates recommended by the Council for election into the Society:—

John Couch Adams, Esq.
Thomas Andrews, M.D.
Robert Alfred Cloyne Austen, Esq.
Charles Barry, Esq.
Benjamin Collins Brodie, Esq.
John Dalrymple, Esq.
James Glaisher, Esq.
Sir Robert Kane, M.D.
William Lassell, Esq.
Henry Beaumont Leeson, M.D.
Andrew Crombie Ramsay, Esq.
John Scott Russell, Esq.
Francis Sibson, M.D.
Robert Stephenson, Esq.
Lieut.-Col. Philip Yorke.

A paper was read, entitled "On the Reduction of the Thermometrical Observations made at the Apartments of the Royal Society from the year 1774 to 1781, and from the year 1787 to 1843." By James Glaisher, Esq. of the Royal Observatory, Greenwich. Communicated by John Lee, Esq., LL.D., F.R.S. &c.

In this paper, the author states that he has examined all the thermometrical observations which have been made at the Apartments of the Royal Society, with the view of ascertaining whether the diurnal variations at different epochs were in accordance with those which he had determined from the Greenwich observations, and which are contained in his paper published in the Philosophical Transactions for 1848. The result of this investigation was, that the corrections contained in the tables in his former paper were applicable to the observations of all the years since 1774.

The author is led from these examinations to the conclusion,—1st, that the instruments used have been uniformly good; 2ndly, that the observations have been faithfully recorded as read from the instruments; 3rdly, that the readings have been taken with great care with respect to the times stated; and lastly, that the observations were well-worth the necessary labour of reduction. He finds, however, that some of the more recent observations of the self-registering instruments are liable to some uncertainty.

Having satisfied himself that the observations were well-worth any amount of labour that might be bestowed on them, the author was anxious to reduce them to a useful form, but, in consequence of the great amount of work that would be required for the reduction of so extensive a series, he for some time hesitated to enter upon this labour. Finding however that there was a demand for the results of trustworthy observations extending backwards many years, and having, besides, the hope of connecting the Greenwich series of observations with these, he determined to perform the work. He states that the mean temperature of every month was determined in the first instance from the observations which had been made during the day, and secondly, from the observations of the self-registering

instruments. Tables are appended to the paper, showing the monthly, quarterly and yearly mean temperatures, with those of groups of years, and other tables exhibiting the departure of every individual result from the mean of all.

The author concludes by stating, that hitherto the mean temperature at Somerset House has been estimated a great deal too high. He does not here enter into the investigation as to whether the temperature as now determined is too high for the geographical position and elevation of Somerset House, but proposes to do so, in a paper he is preparing with the view of connecting the Somerset House with the Greenwich series, and of bringing up all the results to the present time. He hopes also, at some future time, to present results from the barometrical observations arranged in a similar manner.

May 10, 1849.

The EARL OF ROSSE, President, in the Chair.

The following communication was read:—"Remarks on M. De la Rive's Theory for the Physical Explanation of the Causes which produce the Diurnal Variation of the Magnetic Declination," in a letter to S. Hunter Christie, Esq., Sec. R.S., from Lieut.-Col. Sabine, For. Sec.R.S. Communicated by S. Hunter Christie, Esq.

MY DEAR SIR, Woolwich, April 16, 1849.

The *Annales de Chimie et de Physique* for March last contains a letter from M. De la Rive to M. Arago, in which a theory is proposed, professing to explain on physical principles the general phenomena of the diurnal variation of the magnetic declination, and, in particular, the phenomena observed at St. Helena and at the Cape of Good Hope, described in a paper communicated by me to the Royal Society in 1847, and which has been honoured with a place in the Philosophical Transactions.

Although I doubt not that the inadequacy of the theory proposed by M. De la Rive for the solution of this interesting problem will be at once recognised by those who have carefully studied the facts which have become known to us by means of the exact methods of investigation adopted in the magnetic observatories of recent establishment, yet there is danger that the names of De la Rive and Arago, held in high and deserved estimation as authorities on such subjects, attached to a theory, which moreover claims reception on the ground of its accordance with "well-ascertained facts" and "with principles of physics positively established," may operate prejudicially in checking the inquiries which may be in progress in other quarters into the causes which really occasion the phenomena in question; I have thought it desirable therefore to point out, in a very brief communication, some of the important particulars in which M. De la Rive's theory fails to represent correctly the facts which it